

REMARKS

Applicant concurrently files herewith a Petition for Extension of Time, and corresponding extension of time fee, for a one (1) month extension of time.

Claims 1 and 3-15 are all of the claims presently pending in the application. Claim 2 has been canceled without prejudice or disclaimer. Claim 1 has been amended to more particularly define the invention. Claims 3-15 have been added to claim additional features of the invention and to provide more varied protection for the claimed invention.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Patent No. JP 2001191139 (hereinafter "JP '139").

This rejection is respectfully traversed in view of the following discussion.

I. THE CLAIMED INVENTION

The claimed invention (e.g., as defined in claim 1) is directed to a method of manufacturing a rocker arm for opening and closing a valve. The method includes providing a metallic sheet, bending the metallic sheet to form a pair of predetermined side wall regions and a predetermined connecting wall region that connects the pair of sidewall regions, first pressing outer sides of each of the pair of predetermined sidewalls to plastically flow so that the height of the side walls increases and secondly pressing the connecting wall region to form a recess in the connecting wall region. The first and second pressing functions are alternatively repeated a plurality of times so that a metal flow continues between the valve guide walls including distal ends thereof and the connecting wall.

In conventional rocker arm manufacturing methods, the connecting wall of the valve engaging portion is deformed by press forming to form a rocker arm in which the body and

the connecting wall are integrated. When press forming is conducted, however, a metal flow between the body and the connecting wall is cut off by a shock caused during the press forming. This lowers the mechanical strength of the continuous portion between the body and the connecting wall.

The claimed invention of exemplary claim 1, on the other hand, provides a method of manufacturing a rocker arm for opening and closing a valve. The method includes providing a metallic sheet, bending the metallic sheet to form a pair of predetermined side wall regions and a predetermined connecting wall region that connects the pair of sidewall regions, first pressing outer sides of each of the pair of predetermined sidewalls to plastically flow so that the height of the side walls increases and secondly pressing the connecting wall region to form a recess in the connecting wall region. The first and second pressing functions are alternatively repeated a plurality of times so that a metal flow continues between the valve guide walls including distal ends thereof and the connecting wall (e.g., see page 13, lines 4-10). Accordingly, the rigidity of the valve engaging portion can be ensured and the quality of the rocker arm can be stabilized (e.g., see page 3, lines 10-12).

II. THE PRIOR ART REFERENCE

The Examiner alleges that JP '139, in view of official notice, teaches the claimed invention of claim 1. Applicant submits, however, that the Examiner's use of "official notice" is inappropriate and even if it was appropriate, there are elements of the claimed invention that are neither taught nor suggested by JP '139 in view of official notice.

That is, JP '139 does not teach or suggest "*alternatively repeating the first pressing and the second pressing a plurality of times*" as recited in claim 1.

As noted above, unlike conventional rocker arm manufacturing methods, the claimed invention provides a method of manufacturing a rocker arm for opening and closing a valve, in which the first and second pressing functions are alternatively repeated a plurality of times so that a metal flow continues between the valve guide walls including distal ends thereof and the connecting wall (e.g., see page 13, lines 4-10). Accordingly, the rigidity of the valve engaging portion can be ensured and the quality of the rocker arm can be stabilized (e.g., see

page 3, lines 10-12).

The novel features of the claimed invention are not taught or suggested by JP '139. Indeed, the Examiner attempts to rely on the Abstract of JP '139 to support his allegations. However, the Examiner is clearly incorrect.

The Examiner alleges that JP '139 teaches a method of making a rocker arm including all of the steps claimed, but does not discuss any repeating of first and second pressing functions until the correct shape is achieved.

Nowhere, however, in the Abstract (nor anywhere else for that matter) does JP '139 teach or suggest that the first and second pressing functions are alternatively repeated a plurality of times. Indeed, the structure and method disclosed in JP '139 are insufficient to make a metal flow continue between both the valve guide walls including distal ends thereof and the connecting wall. To make the metal flow continue between both the valve guide walls including distal ends, which is gradually increased in height according to the grooving process, and the connecting wall, it is important to alternatively repeat the first and second pressing functions to adjust the pressing forces. Adjusting the pressing forces prevents shock during the press forming, which results in high mechanical strength for the resulting rocker arm.

In fact, the Examiner concedes that JP '139 does not disclose or suggest repeating the first and second pressing functions. The Examiner states, however, that "*it is considered old and well known in the art to repeat metal deforming steps to get the correct shape, thickness, etc, and official notice is taken of such.*"

Applicants respectfully submit that the Examiner has inappropriately taken official notice in this case. Specifically, the Examiner can not take official notice of repeating the first and second pressing functions to gradually deform the valve guide walls and the connecting wall to prevent shock during the press forming process.

According to MPEP §2144.03, official notice that is unsupported by documentary evidence should only be taken by the Examiner where the facts asserted to be well-known are capable of instant and unquestionable demonstration as being well-known. Furthermore, general conclusions concerning what is "basic knowledge" or "common sense" to one of

ordinary skill in the art without specific factual findings and some concrete evidence in the record to support those findings will not support an obviousness rejection (See MPEP §2144.03). Finally, if official notice is taken, the basis for such reasoning must be set forth explicitly.

The Examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusion of common knowledge (See MPEP §2144.03). In the Office Action, the Examiner merely states that it would have been obvious to repeat the metal deforming steps to get the correct shape, thickness, etc. The Examiner, however, does not provide any reasoning nor evidence for taking official notice of repeating the first and second pressing functions to gradually deform the valve guide walls and the connecting wall to prevent shock during the press forming process.

Thus, JP '139, in view of official notice, clearly does not disclose or suggest all of the recitations of independent claim 1 and the § 103(a) rejection of claim 1 should be withdrawn.

Should the Examiner persist in this rejection he is respectfully requested to provide a reference properly combinable with JP '139 for such a teaching.

III. NEW CLAIMS

New claims 3-15 are added to claim additional features of the present invention and to provide more varied protection for the present invention. These claims are independently patentable because of the novel features recited therein.

Applicants respectfully submit that new claims 3-15 are patentable over any combination of the applied references at least for analogous reasons to those set forth above with respect to claim 1.

IV. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 1 and 3-15, all of the claims presently pending in the application, are patentably distinct over the prior art of record and is in condition for allowance. The Examiner is respectfully requested to pass the above

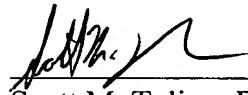
application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

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